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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,342	06/16/2005	Shahram Mihan	8019.101	7357

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EXAMINER

LEE, RIP A

ART UNIT PAPER NUMBER

1713

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/539,342

Applicant(s)

MIHAN ET AL.

Examiner

Rip A. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09-06-2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-9 and 10-13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 10/539,242. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application are generic to, *i.e.*, fully encompass, the claims of the copending application, and therefore, the claims of the instant application are anticipated by the claims of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-4, 6-8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang (WO 01/92346).

Wang teaches a series of group 5 and 6 transition metal complexes containing a cyclopentadienyl moiety linked to a heteroaromatic group (ii) by bridging group TR_5R_6 , where R_5 and R_6 each independently represent hydrogen or C_1-C_8 hydrocarbyl (claim 1). Inventive complexes are used as catalyst components for polymerization of olefin (see discussion, pages 7-13).

7. Claims 1-8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mihan *et al.* (WO 01/12641; equivalent document U.S. 6,919,412 relied upon for translation).

The subject matter of the instant claims is fully anticipated by the prior art. See in particular, claim 1 which teaches compounds containing bridging group $-L^2(R^{13})(R^{14})-$, as well as page 8, lines 45-47. Use of the compounds of the invention in a catalyst is discussed thoroughly on pages 14-17.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mihan *et al.*

The discussion of the disclosures of the prior art from the previous paragraph of this office action is incorporated here by reference. The examples in Mihan *et al.* teach preparation of the ligand framework and metal complexes disclosed in the claims and throughout the text. Here, a lithiated heteroaromatic ring system is reacted with an appropriate cyclopentenone precursor, resulting in the formation of a bridged cyclopentadienyl-containing ligand framework. Subsequent ligation to the metal precursor yields the inventive metal complexes. The examples show synthesis of complexes in which the heteroaromatic ring moiety is directly bound to the carbocyclic ring, but the synthesis of a corresponding bridged derivative is not disclosed. This point notwithstanding, it would have been obvious to one having ordinary skill in the art to make ligands in which the heteroaromatic ring moiety is bound to the carbocyclic ring by a bridging group $-L^2(R^{13})(R^{14})-$ by reacting an anion of form $[A-L^2(R^{13})(R^{14})]$ with a cyclopentenone precursor, and thereby arrive at the process of the instant claim. One of ordinary skill in the art would have found it obvious to follow the synthetic protocol outlined in the examples because it

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is a general procedure, and therefore, one of ordinary skill in the art would have expected it to work. One of ordinary skill in the art would have found it obvious to make the claimed $A-L^2(R^{13})(R^{14})Cp$ ligand because it is taught in claim 1 of the prior art.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mihan *et al.* in view of Canich *et al.* (U.S. 5,227,440).

Mihan *et al.* contemplates use of the catalyst in a prepolymerization step (page 17, line 24), however, there is no disclosure as to how this is achieved. The invention of Canich *et al.* relates to polymerization of olefins in the presence of catalysts comprising monocyclopentadienyl substituted transition metal complexes. Here, the inventors teach propolyemrization as a means to decrease the amount of co-catalyst as well as obtaining the final product in well-defined, particulate form. Canich *et al.* teaches that the catalyst particles should be treated with monomer to form an amount of polymer on the solid catalyst to increase the weight by at least 50 % (col. 15, lines 8-19). One of ordinary skill in the art would have found it obvious to make a prepolymer because such an embodiment is contemplated in Mihan *et al.*, and he would have found it obvious to use the amount of monomer disclosed in Canich *et al.* because such a process has been demonstrated to work successfully in making useful product. The combination is obvious because both references relate to processes for making olefin polymer.

10. The process of instant claim 12 is neither disclosed nor suggested in the cited references. The use of fulvenes to make bridging cyclopentadienyl ligands is well-established, as shown in Becké *et al.* (U.S. 6,281,153) and Wenzel (U.S. 6,326,445).


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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May 9, 2006


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